Homework #1 CS4110

#1. a. 4 {aa, bb, ab, ba}
b. 8 {aaa, aab, aba, abb, bab, bba, bbb, baa}
c. 2^n

#3 a. {ababab, ababba, abbaba, baabab, babaab, bababa, abbaa
b. No, at most substrings "aa" and "bb"
c. a or b : length of 1.

#5 aabaa : (aa)(baa)
a. baaabaaa : (baa)(aba)(aa)
baaaaababaaaaa : (baa)(aa)(aba)(baa)(aa)
b. Words can^only be interpreted as a ~~string~~ string
One way!

c. No, all builders have an even number of "a".

#6 x^{19} :

$8(xx) + 1(xxx)$
$2(xx) + 5(xxx)$
$5(xx) + 3(xxx)$

$$\frac{n!}{(n1! * n2! * \dots nk!)}$$

$$\frac{9!}{(8!\,1!)} = 9$$

$$\frac{8!}{(5!\,3!)} = +56$$

$$\frac{7!}{(2!\,5!)} = 21$$

86